



UNIVERSITI
TEKNOLOGI
PETRONAS

GROUP PROJECT REPORT

TEB1033/TEB1043: OBJECT ORIENTED PROGRAMMING

MAY 2024

TITLE: *iEMPLOYEE*

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Video Demonstration Link:

<https://youtu.be/p1loIOyQcVk>

Github Repository Link:

<https://github.com/MThaifurS/iEmployee>

1.0 Introduction

Project Description

In today's fast-paced business environment, efficient management of employee attendance, leave requests, and administrative tasks is essential. Our group decided to develop a comprehensive employee management system called iEmployee using Java to address these needs. The iEmployee aims to automate and streamline the management of employee data, attendance, and leave requests, thereby improving operational efficiency and ensuring accurate record-keeping.

This project provides distinct interfaces for employees and administrators, enhancing operational efficiency and improving overall user experience. Employees can easily clock in and out, apply for leave, and view their attendance records, while administrators have access to tools for managing employee details, leave requests, and attendance records. The system is designed to handle various functions related to employee management with a focus on security, reliability, and ease of use.

By implementing this system, organisations can reduce the manual effort required for managing employee-related tasks, minimise errors, and ensure data integrity. The iEmployee represents a significant advancement in workforce management, aiming to streamline processes and enhance productivity within organisations.

Objective

The iEmployee project aims to create a comprehensive, user-friendly application to enhance employee management within organisations. Its main objectives include:

- **Employee Authentication:** Secure login for authorised access by employees and administrators.
- **Attendance Management:** Efficient clock-in/out with accurate timestamps.
- **Leave Management:** Streamlined leave application and management for both employees and administrators.
- **Employee Records Management:** Maintain and manage employee details and attendance records.
- **User-Friendly Interface:** Intuitive design for easy use and minimal learning curve.

Problem Statement

Inaccurate attendance records, inefficient leave management, decentralised employee information, and security risks are significant challenges in traditional systems. Manual clock-in/out processes often result in errors and discrepancies in attendance records, leading to disputes over work hours and payroll. Inefficient leave management can cause delays and miscommunications when requests are submitted through various channels, leading to approval issues and confusion. Managing employee information across physical files or disparate digital formats can result in inconsistencies and errors, making data retrieval and updates cumbersome. Additionally, traditional methods face security risks with physical records being lost or damaged and digital records vulnerable to unauthorised access and cyber-attacks.

The iEmployee addresses these issues by:

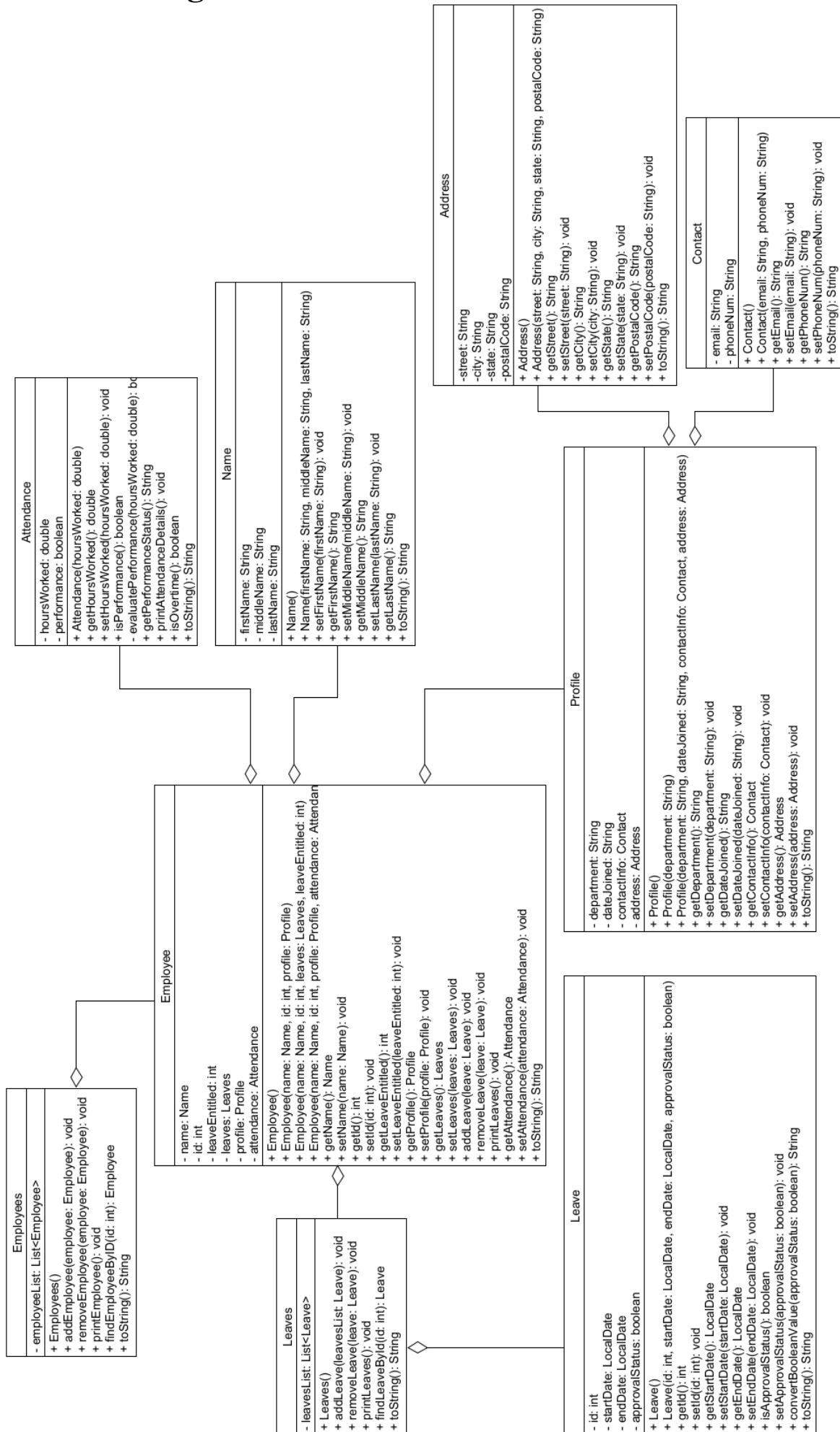
- **Automating Attendance Tracking:** Ensures accurate, time-stamped records to prevent disputes and discrepancies.
- **Streamlining Leave Management:** Provides a centralised platform for efficient leave requests and approvals, reducing delays and miscommunications.
- **Centralising Employee Information:** Maintains all data in a single database, ensuring accuracy and easy access.
- **Enhancing Security:** Implements robust authentication and data encryption to protect sensitive information and prevent unauthorised access.

Application

iEmployee is adaptable across various organisational settings, enhancing management of employee-related tasks and operational efficiency:

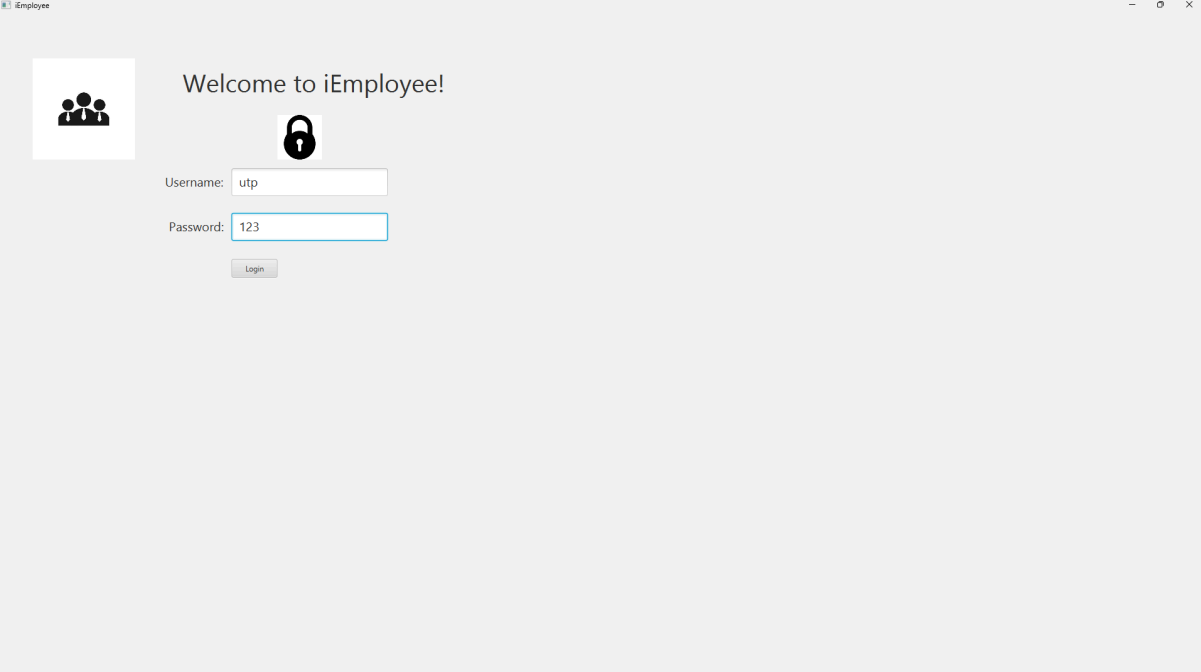
- **Corporate Offices:** Streamlines attendance and leave management, reducing payroll discrepancies and disputes while improving workforce planning with detailed reports.
- **Small Businesses:** Offers a cost-effective solution for tracking employee hours, managing leave requests, and maintaining records, allowing focus on core activities.
- **Educational Institutions:** Manages faculty and staff attendance and leave requests accurately, providing reports for administrative planning and compliance.
- **Healthcare Facilities:** Ensures accurate record-keeping for medical staff, tracks shift patterns, and manages leave requests to maintain optimal staffing and compliance.
- **Government Agencies:** Enhances public sector employee management with accurate records, streamlined processes, and regulatory compliance, improving service delivery.
- **Non-Profit Organisations:** Streamlines administration for volunteers and employees, ensuring accurate records and transparent reporting, supporting the organisation's mission.
- **Retail and Hospitality:** Manages high employee turnover and varied schedules by handling shift scheduling, tracking hours, and processing leave requests, improving staffing and efficiency.

2.0 UML Diagram



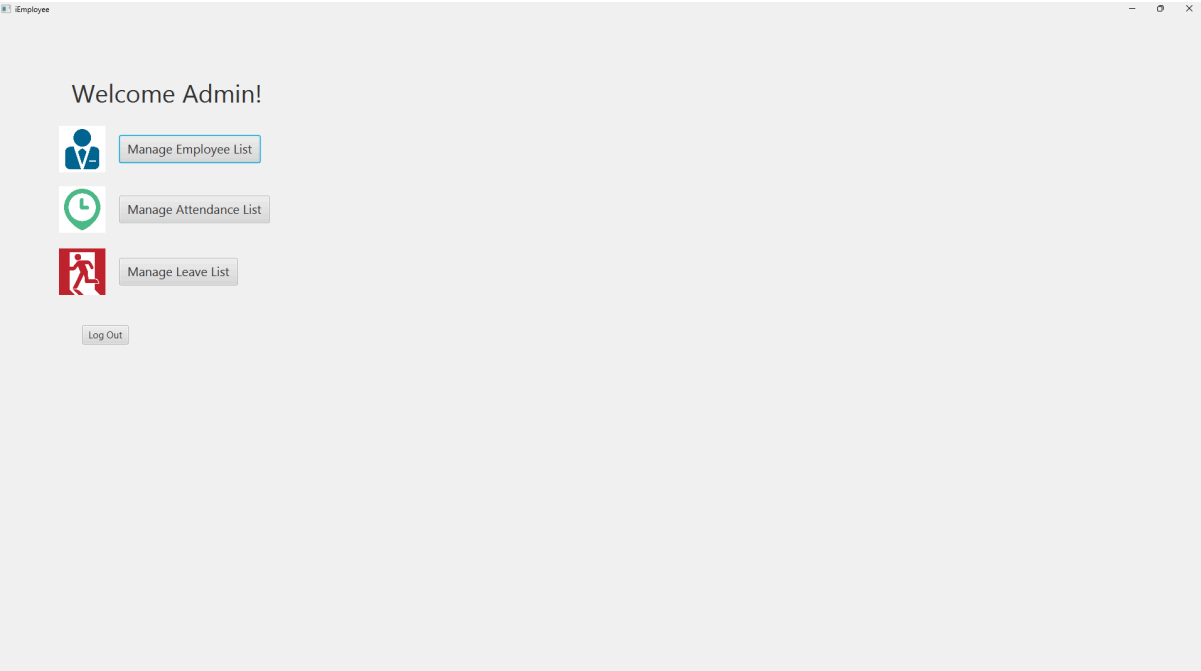
3.0 Implementation/Snapshot of Project

Login Page:



The screenshot shows a web browser window titled "iEmployee". The page has a light gray background. On the left, there is a white square icon containing three stylized human figures. To the right of this icon, the text "Welcome to iEmployee!" is displayed. Below the welcome message, there is a black padlock icon. Underneath the padlock, there are two input fields: "Username:" with the value "utp" and "Password:" with the value "123". Below these fields is a "Login" button.

Admin Home Screen:



The screenshot shows a web browser window titled "iEmployee". The page has a light gray background. At the top left, there is a blue icon of a person with a checkmark. Below this icon, the text "Welcome Admin!" is displayed. To the right of the welcome message, there are three buttons: "Manage Employee List" (with a blue icon of a person), "Manage Attendance List" (with a green clock icon), and "Manage Leave List" (with a red icon of a person running). Below these buttons is a "Log Out" button.

Manage Employee List:

Add Employee to List:

The screenshot displays a web application interface. On the left, a table titled "List of Employees:" contains a list of employees with columns for First, Last, Middle, ID, and Date Joined. The table has 8 rows of data and 5 empty rows below. On the right, a modal window titled "Add New Employee" is open, showing a form for adding a new employee. The form includes fields for Name (First, Last, Middle), ID, Date Joined, Last Name, Middle Name, Department, Address (Street, City, State, Postal Code), Contact (Email, Phone Number), and buttons for Submit and Cancel.

List of Employees:

Name			ID	Date Joined
First	Last	Middle		
John	Okay	Doe	12323	2023-01-01
Jane	Wuzz	Smith	22323	2023-02-01
Alice	Bee	Johnson	22323	2023-03-01
Bob	Jay	Brown	42323	2023-04-01
Charlie	Kay	Davis	52323	2023-05-01
Eve	Lee	White	62323	2023-06-01
Frank	Moe	Black	72323	2023-07-01

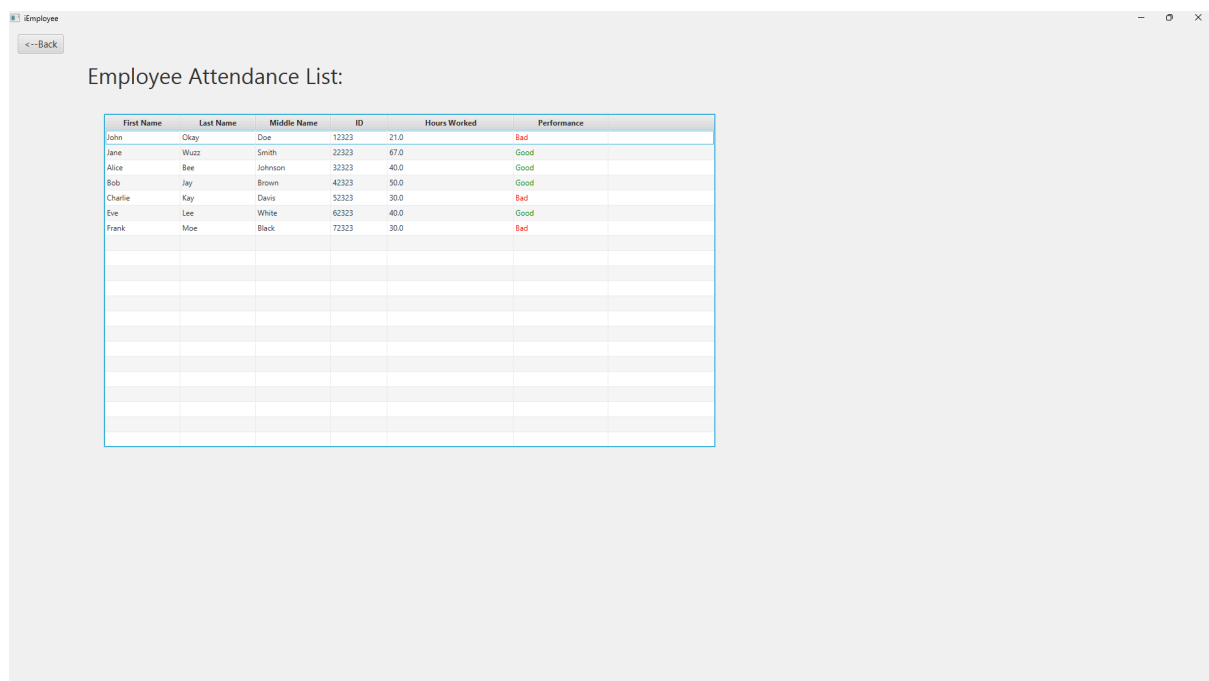
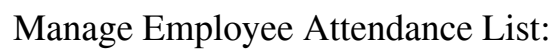
Add New Employee Details:

Name:
First Name:
Last Name:
Middle Name:
ID:
Date Joined:
Department:
Address:
Street:
City:
State:
Postal Code:
Contact:
Email:
Phone Number:

Submit

Cancel

Edit Employee on List:



iEMPLOYEE

Manage Employee Leave List:

[illegible]

4.0 Conclusion

The iEmployee project successfully addresses the inefficiencies and inaccuracies of traditional employee management methods. By developing a user-friendly and secure application, we have streamlined the processes of managing attendance, leave requests, and administrative tasks. The system provides distinct interfaces for employees and administrators, ensuring that each user can efficiently perform their respective tasks. Employees benefit from an intuitive interface for clocking in/out and applying for leave, while administrators gain robust tools for managing employee records, processing leave requests, and viewing attendance logs.

This automation reduces manual effort, minimises errors, and enhances overall operational efficiency. Data security and integrity are maintained through secure authentication and accurate record-keeping. Ultimately, iEmployee improves productivity, employee satisfaction, and organisational efficiency, providing a reliable solution for modern workforce management.